Md Hasanul Kabir

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hasanulkabir-md.github.io
LinkedIn — GitHub

PERSONAL DATA

Current Status: Master's Student in Computer Science & Technology, Nanjing Normal University

Nationality: Bangladeshi

RESEARCH INTERESTS

Primary: Autonomous Systems, AI-based Automation, Intelligent Inspection Robots

Technical: Deep Reinforcement Learning, MARL, Machine Learning, Computer Vision, Robotics Simulation

EDUCATION

Nanjing Normal University   Nanjing, China
M.Sc. in Computer Science & Technology   *2023 – 2026 (Expected)*

Henan Polytechnic University   Jiaozuo, China
B.Sc. in Computer Science & Technology — Grade: 85%   *2017 – 2021*

RESEARCH EXPERIENCE

Video-Based Obstacle Avoidance using DRL   2023 – Present
Nanjing Normal University   *Nanjing, China*

- Developing an advanced DRL-based obstacle avoidance framework for autonomous robots using vision inputs.
- Integrated YOLO for dynamic object detection and DQN/PPO algorithms for navigation decision-making.
- Simulated and evaluated performance metrics using ROS–Gazebo.

Air Quality Prediction Model   2023
Nanjing Normal University   *Nanjing, China*

- Built an Attention-Enhanced Spatio-Temporal GCN (AE-STGCN) for urban air quality forecasting.
- Combined pollutant, meteorological, and POI datasets for improved predictive accuracy.

Consortium Research Center (CRC)   2021 – Present
Dhaka, Bangladesh (Remote)

- **Head of People (2024–)** — leading research coordination, R&D planning, and cross-team workflow alignment.
- **Junior Research Assistant (2021–2023)** — literature review, dataset management, and grant documentation support.

PUBLICATIONS

Multi-point Navigation Method for Intelligent Robots   2024
Journal of Computing   *Co-author*

Credit Approval Decision using ML Algorithms   2022
IEEE ICRITO Conference   *Co-author*

PROJECTS

Bayesian Regression for Noisy Sensor Data 2024
Personal Project *Nanjing, China*
  − Implemented Bayesian Linear Regression using PyMC to model measurement uncertainty.
  − Compared Bayesian inference with OLS for robustness under noise.

Kalman Filter for Motion Tracking 2024
Personal Project *Nanjing, China*
  − Developed a 2D Kalman Filter for noisy trajectory estimation.
  − Visualized tracking results demonstrating robotics applications.

TECHNICAL SKILLS

Languages: Python, MATLAB, Java, SQL, Bash, C/C++ (Basic)

Frameworks: PyTorch, TensorFlow, OpenCV, Pandas, NumPy

Robotics: ROS, Gazebo, DRL (DQN/PPO), A*, RRT, YOLO

Tools: Selenium, Postman, Docker, Git, Linux Environment

AWARDS & ACHIEVEMENTS

Provincial Scholarship (Awarded Twice) 2019, 2020
China Education Ministry *Henan Province*

#MyChinaStory Writing Award 2020
Chinese Embassy in Bangladesh

Youth for Civic Leadership Award 2022
JAAGO Foundation *Bangladesh*

COMMUNITY INVOLVEMENT

Local Youth Leader 2022
JAAGO Foundation *Organized civic engagement and leadership training events.*

Volunteer, Yuntai Maker Space 2018 − 2021
Henan Polytechnic University *Supported innovation workshops and hackathons.*

LANGUAGES

English (Professional) | Chinese (Elementary) | Bengali (Native)

REFERENCES

Dr. Xiaojun Qian
Professor
Nanjing Normal University
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Dr. Wanqi Yang
Associate Professor
Nanjing Normal University
yangwq@njnu.edu.cn

Further references available upon request.